CALIFORNIA THE GOLDEN STATE

California Environmental Protection Agency
Regional Water Quality Control Board
Santa Ana Region 8

Marinas and Boating

Between 21 to 31 million people in the U.S. are involved in some form of boating activity (fishing, powerboating, water skiing, canoeing, sailing) (Boating Industry, 1994). With over 16.6 million recreational boats in use today, marina and boatyard facilities are in high demand. Marinas can be found in most lakes, reservoirs and rivers, as well as in coastal harbors and bays. Because of their locations, it is very important that marinas and others involved with recreational boating always practice pollution prevention and protect our waters.

Boaters and marina operators can take common-sense steps to minimize pollution in our marinas, harbors, rivers, lakes, bays and the ocean. These steps, called "Best Management Practices," or BMPs, have been developed to address used oil management, fueling, accidental oil or fuel spills, sewage discharges, boat cleaning and maintenance, trash and litter, and hazardous waste. We *can* protect recreational waters from pollution. Below are some things you can do to help keep our waters pollution-free. For more information, please visit http://www.smbay.org.

Fueling and Used Oil:

In calm water, a spill of just one gallon of gasoline or diesel fuel can create a sheen that covers an area larger than a football field . *Prevent fuel spills!* Know your boat's fuel tank capacity before filling it, learn how to estimate how much fuel is needed to fill your tank, and do not "top off" your tank. Fuel surge protectors and fuel/air separators prevent fuel spills and are relatively inexpensive.

According to the Santa Monica Bay Restoration Project, "A single gallon of used oil or fuel can pollute over one million gallons of water." Never pump oil- or fuel-contaminated bilge water overboard, and always dispose of drain oil properly. Maintain engines to prevent bilge water from becoming contaminated with oil. Marina operators can help prevent oil from polluting their waters on by providing bilge pump-outs and used oil and oil filter recycling and collection facilities. Marina operators can also help by distributing oil and fuel absorbent pads to soak up oil and fuel, and by using them at fuel docks to capture minor spills. Used crankcase lubricating oil is hazardous waste. Prevent pollution in marinas and waterways by properly recycling used oil and oil filters,

by keeping engines and final drives well maintained and free from oil and fuel leaks, and by using oil- and fuel- absorbent pads in bilges (taking care to prevent pads from clogging bilge pump intakes).

For more information on used oil and fueling, call the Boating Clean and Green Campaign, (415) 904-5214. Call 1-800-98-TOXIC or 1-800-CLEANUP for the nearest recycling facility for disposal of used oil absorbent pads.

Oil and fuel spills must be reported immediately to the U.S. Coast Guard National Response Center at 1-800-OILS-911. Do not try to treat the spill with detergents or other chemicals. Use oil absorbent pads or booms to soak up any spills that reach the water.

Boat Cleaning

Simply by washing down your boat with high pressure, fresh water after each outing, you can minimize the needed to wash your boat with harsh cleaners. The reality, however, is that your boat will eventually need a thorough washing. Many of the cleaning compounds used to clean and detail boats contain chemicals that can contribute to water pollution.

Alternatives to strong chemical cleaners include using small amounts of phosphate-free, biodegradable detergents, vegetable or citrus-based cleaners, baking soda and vinegar. Non-toxic does not equate with being ineffective. For example, mix borax and lemon juice into a paste to remove grease. To clean and deodorize the head, use a mix of ½ cup borax per 1 gallon of water. Clean heads frequently with a solution of baking soda and water and sprinkle baking soda around the rim. (Source: "Boating Clean and Green - A guide to Environmentally Sound Boating Practices in the San Francisco Bay and Delta.") If possible, clean boat surfaces while the boar is out of the water, taking steps to keep wash water, and all chemical cleaners, out of storm drains, rivers, lakes, streams and coastal waters.

Preparing to Paint or Varnish

When preparing to varnish or paint a boat, it's usually necessary to sand or scrape off old coatings. Keep dust and chips from this prep work out of the water. Drape a tarp from e boat to dock so that particulates fall onto the tarp instead of in the water. Capture dusts and chips by using a vacuum connected to sanders and other power tools, and to vacuum debris from wet sanding operations. Paint chips and paint dusts, particularly from anti-foulant paints, may be hazardous waste, and must be properly disposed of.

Sewage Discharge:

A single overboard discharge of human waste can be detected in up to a 1-square-mile area of shallow enclosed water (FL DEP, no date). Human wastes contain bacteria viruses that can affect human health and lead to beach closures and shellfish bed closures.

Below is an image, provided by the City of Los Angeles, of potentially disease-causing bacteria and viruses found in marine waters.

Under federal law, it is illegal to discharge sewage from boats into navigable U.S. waters. The law also specifies that there shall be "no discharge" from boats operated in lakes and reservoirs or in rivers that are not capable of interstate navigation. Measures to manage sewage from recreational activities include providing alternatives to illegal, overboard waste discharges. Many marinas provide vessel holding tank pump out stations and dump stations for safe disposal of sanitary wastes. Marina operators can provide educational materials, such as fliers or signs, to advise boaters that marinas and harbors are "no-discharge" areas. Well- marked and properly maintained pump out stations provide a convenient alternative to illegal disposal of holding tank wastes.

To combat illegal disposal of holding tank wastes, some marina operators have required arriving boaters to check in with a harbor master, who will put dye tablets into holding tanks. Marina operators then monitor anchorages for the tell-tale dye. Boaters who discharge dyed holding tanks within the marinas have been fined and/or banned from the harbor where the violation occurred.

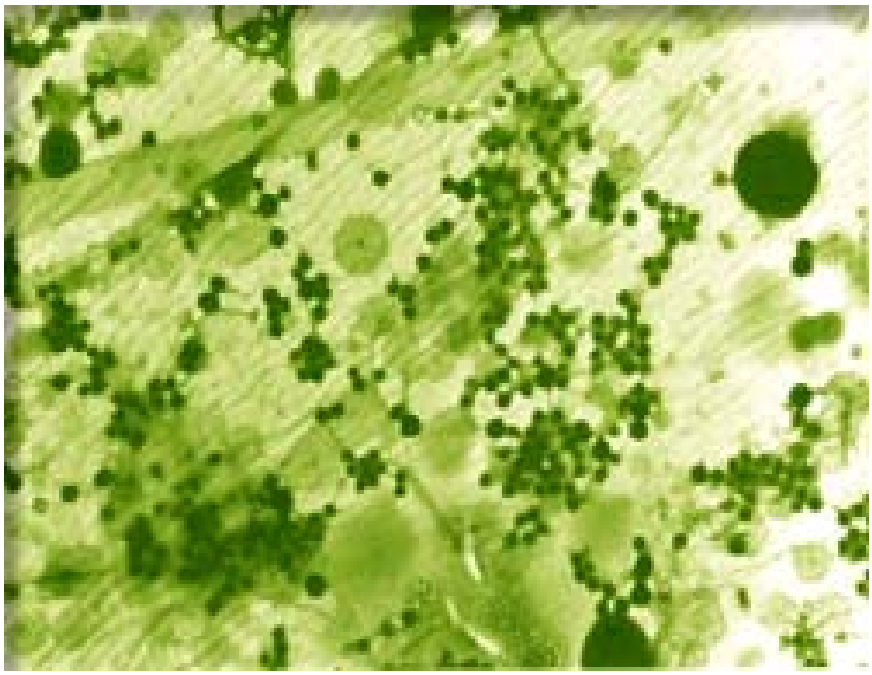

Image provided by The City of Los Angeles.
The image above is an "electron micrograph of bacteria (large spheres) and marine viruses (small spheres)…" (http:///www.lacity.org/san/swmd/Pages/hlthrsks.htm)

Hazardous Waste:

In addition to paint chips, used oil and used oil filters, marina operations and boat maintenance may also produce other types of hazardous waste that can pollute water. Used transmission fluids and engine coolants, freon, rags used to absorb oil, paint, solvent or fuel spills, metal or paint dusts, and used lead acid batteries are examples of hazardous wastes that are common to marinas. Dispose of hazardous wastes safely and properly. Call 1-800-CLEANUP to find a hazardous waste collection or disposal site near you.

Litter and Trash:

Floating litter and debris causes a variety of problems for the boater, from fouling cooling water intakes to physical damage to hulls, props and other running gear. In addition, marine wildlife (e.g. fish, fur seals, birds and other animals) often confuse trash and debris with food, and try to eat the litter or feed it to their offspring. Marine wildlife can suffocate or starve from becoming entangled in plastics wastes, such as bags or six pack rings, and discarded fishing line and nets, and can be poisoned by eating cigarette butts. All boats should be equipped with a trash receptacle and a device for retrieving litter that falls overboard. Marina operators can help prevent floating litter and trash by providing an ample number of secure containers for litter and trash.

Caulerpa Taxifolia:

Caulerpa Taxifolia, an aquatic plant that has come to be known as "killer algae," has been found in Huntington Harbour and the Agua Hedionda Lagoon in Carlsbad, both in Southern California. *Caulerpa* originates in the Caribbean and is a popular plant in home aquariums. If just a sliver of the algae is dumped into a storm drain, the algae can get into local waterways and quickly crowd out native aquatic plants and habitats. It spreads when small pieces break off, float away, and grow wherever the pieces come to rest. *Caulerpa* does not cause direct harm to humans, but wherever it becomes established, it overwhelms the native aquatic plant communities and displaces marine life that depend on them. Some 10,000 acres in the Mediterranean Sea have suffered this ecological fate.

Eradication efforts are underway in Southern California. *Caulerpa* is very hardy and difficult to destroy because it spreads easily and grows back quickly. Aquarium enthusiasts may not realize that they have C*aulerpa taxifolia* in their saltwater tank. As a precaution, aquarium water should only be dumped into sinks or other drains connected to sanitary sewers, for this wastewater receives treatment. *Do not empty aquarium water into a street, storm drain, bay, lagoon, etc.*

Importation of C*aulerpa* is a federal offense under the Noxious Weed Act of 1999. The October 15, 2001, Los Angeles Times reported that Gov. Gray Davis signed a state law that bans the import, sale and possession of this "killer algae."

What You Can Do-

1. If you think you see *Caulerpa* algae growing in a water way, carefully collect a small piece in a sealed plastic bag (but remember that a tiny fragment can generate a new infestation), and report your sighting to the Regional Water Quality Control Board at **(858) 467- 2985, caulerpa@rb9.swrcb.ca.gov** , or **(909) 782-3221.**

2. If you think that you have *Caulerpa* algae in your aquarium, put the seaweed in a bag, **place it in your freezer** for at least **24 hours**, and then dispose of it in the trash destined for a landfill.

For more information, please visit:
http://www.swrcb.ca.gov/~rwqcb9/News/Caulerpa_taxifolia/caulerpa_taxifolia.html and
http://swf.nmfs.noaa.gov/hcd/caulerpa.htm

Summary:

Once a water body becomes polluted, or when a water body's physical structure (and the habitat it supports) have been altered, it is very difficult and costly to restore to the water body to its original condition. That is why environmental stewardship and prevent pollution are encouraged and recommended. Consistent use of thoughtful and appropriate Best Management Practices (BMPs), such as those outlined above, can help to prevent water pollution. Public education is the basis of many BMP programs, and that is why this fact sheet has been produced. Thank you for reading it. For further information about a wide range of BMPs, please visit http://www.epa.gov/npdes/menuofbmps/menu.htm**.**